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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/590,941	08/28/2006	Shunji Sekiguchi	295473US0PCT	2658

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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER

ASINOVSKY, OLGA

ART UNIT	PAPER NUMBER
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1796

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/590,941	Applicant(s) SEKIGUCHI ET AL.	
	Examiner OLGA ASINOVSKY	Art Unit 1796	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 August 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>08/28/2006; 02/13/2008</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Double Patenting

DETAILED ACTION

Double Patenting

1. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

2. Claims 1, 3, 4, 5 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-7 of U.S. Patent No. 7,235,610.

Although the conflicting claims are not identical, they are not patentably distinct from each other because the claimed invention in claims 1-7 of Patent 7,235,610 discloses propylene isotactic random copolymer produced in the presence of a metallocene catalyst, and said copolymer is grafted with alpha, beta-unsaturated carboxylic acid such that a grafted level is in the range of 0.1 to 20% by weight, and wherein the resulting copolymer has a weight average molecular weight of 10,000 to 300,000 and a

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melting point is of from 115 to 135 degrees C. An aqueous dispersion is obtained by dispersing the resulting copolymer in the presence of a surfactant. Using said dispersion as a primer, or paint, or adhesive, or ink is/are readable in claims of Patent 7,235,610.

The difference is that claims in Patent 7,235,610 disclose chlorinated propylene isotactic random copolymer with chlorine content of 5 to 40% by weight. It would have been obvious to one of ordinary skill in the art to use an aqueous dispersion of the claimed carboxyl group-containing chlorinated propylene isotactic random copolymer in claims 1-7 of Patent 7,235,610 wherein chlorine can be present in the present claims, because a broad term propylene-based random copolymer is open to include chlorinated resin.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

4. Claims 1, 3, 4, 5, 8, 9 are rejected under 35 U.S.C. 102(e) as being anticipated by WO 03/074606 to Fujino et al.

5. Reference WO 03/074606 has Publication Date December 09, 2003. WO 03/074606 is available reference.

WO 03/074606 belongs to the Patent Family to U.S. Patent 7,235,610. Thus, the disclosure of WO 03/074606 is equivalent to Patent 7,235,610. Since, there is no translation of WO 03/074606 at the present time, the examination of WO 03/074606 reference is addressed to Patent 7,235,610.

All discussions in the paragraph 2 above are adequately set here.

In addition, Fujino discloses grafted alpha, beta-unsaturated carboxylic acid or its anhydride in the first step, after that the chlorination reaction is performed, column 4, lines 9-18. The graft polymerization is carried out in the presence of aromatic solvent, column 4, line 51, for the **present claim 8**. The surfactants have been used for producing an aqueous emulsion to for W/O type or O/W type emulsion having stable aqueous dispersion, column 7, lines 41-57, for the **present claim 9**. An average particle diameter in the present claim 9 is inherent to the aqueous emulsion in Fujuno invention, because the emulsion is produced in the reactor equipped with high speed stirrer, column 7, lines 31-33. The aqueous dispersion can be used as a primer, paint, ink and adhesive applicable to films, sheets and moldings comprising PP, PET and various hard-adherent resins, column 8, lines 21-25, for the **present claims 3, 4, 5**.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 02/036651 to Schauder et al.

Schauder discloses graft-modified propylene ethylene copolymer having propylene content from 68 to 92 % mole. The propylene copolymer is produced by using a metallocene catalyst, page 6, line 19. Grafting monomer is maleic anhydride being grafted in the level as 1.5 wt %, page 5, line 24. The weight average molecular weight of the polypropylene copolymer is preferably between 80,000 to 500,000, page 7, line 13. The melting point is 75 C, claim 7 at page 27. Claim 1 is anticipated by the disclosure in WO 02/036651.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 1-8, 10-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usui et al U.S. Patent 6,800,688 in view of Komoto et al U.S. Patent 7,208,552 .

10. Usui discloses a modified polyolefin including polypropylene. The modified polyolefin resin is obtained by grafting an unsaturated carboxylic acid or its derivative and a particular (meth)acrylic ester as monomers for polyolefin resin, column 2, lines 63-67. The starting polyolefin resin with high propylene content is readable in the present claims for being a propylene-based random copolymer, column 2, lines 14-18.

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The unsaturated polycarboxylic acids (A) is present in the content of 2 to 10% by weight, column 4, lines 35-47, **for the present claims 1 and 2**. The (meth)acrylic ester (B) is present in the range of 0.1 to 30% by weight, column 4, lines 53-67, for the **present claim 2**. The weight average molecular weight of the modified polyolefin resin is 15,000 to 150,000, column 5, lines 54-55, for the **present claims 1 and 2**. The modified polyolefin resin can be used in a variety of applications including as adhesive, primer, paint, and can be used in the forms adapted to uses such as solution, column 7, lines 18-20 and 50, for **the present claims 3-6, 15**. Additive such as pigment and dye can be formulated if need be, column 7, line 23. The modified polyolefin resin can be laminated onto film=substrate, column 7, lines 34-49. The additional layer of the same carboxylated polyolefin resin with pigment or dye is expected for making a multilayer article, for the **present claims 7, 12, 13, 14**. Usui does not disclose a catalyst for polymerization of polyolefin resin.

The difference between the present claims and Usui invention is that Usui does not disclose metallocene catalyst for polymerization of propylene-based random copolymer, and melt point of said copolymer.

Komoto discloses a binder resin composition comprising chlorinated isotactic propylene random copolymer wherein the isotactic propylene random copolymer is produced by using metallocene catalyst. The isotactic propylene random copolymer is carboxylated by graft polymerizing alpha, beta-unsaturated carboxylic acid or its anhydride before the

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chlorination reaction, column 3, lines 58-67. The melt point of the propylene random copolymer is between 115 to 165 C, column 3, line 6. The weight average molecular weight is 3,000 to 250,000, column 3, line 52. The binder resin composition can be used as a paint, printing ink, adhesive and primer applicable to films, sheets and moldings of polyolefin, PVC, polycarbonate, PET, ABS and nylon, column 6, lines 40-47. Komoto discloses that using metallocene catalyst the resulting propylenic random copolymer has a lower melting point than that of the propylenic random copolymer produced by using conventional Ziegler-Natta catalyst, column 6, lines 58-62.

Both references disclose propylene copolymer being modified by unsaturated carboxylic acid or its anhydride.

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify polyolefin resin copolymer in Usui invention by employing propylenic random copolymer produced by metallocene catalyst by teaching in Komoto invention for the purposes for obtaining a lower melting point of a propylene copolymer, Komoto, column 6, lines 58-62.

11. Claims 9 and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Usui et al U.S. Patent 6,800,688 in view of Komoto et al U.S. Patent 7,208,552 as applied to claims 1-8, 10-15 above, and further in view of Kimura et al U.S. Patent 5,539,043.

Usui and Komoto do not disclose aqueous dispersion of the modified polyolefin resin.

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Kimura discloses an aqueous dispersion comprising a carboxyl group-containing chlorinated polypropylene into water using nonionic surfactant. Kimura discloses a reason for dispersing into water to obviate large quantities of organic solvent for safety, sanitation and environment protection, column 1, lines 20-23; column 2, lines 8-12. The aqueous dispersion has excellent adhesive property and low price, column 1, line 11; column 4, lines 47-48. The aqueous dispersion is an oil-in-water dispersion, column 8, line 29.

It would have been obvious to one of ordinary skill in the art to at the time of the invention to use modified polyolefin having high propylene content in Usui invention produced by metallocene catalyst by teaching in Komoto invention and to produce an aqueous dispersion of the resulting modified polyolefin resin in water by teaching in Kimura invention as a benefit for safety, sanitation, and environmental pollution, and, thereby, obtain the claimed requirement.

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. References have been considered. The closest references under X category are: EP 1469035 belongs to Patent family to 7,208,552; EP 1321481 belongs to Patent family to 6,800,688; EP 1482010 belongs to Patent family to 7,235,610 and WO 02/036651 has been discussed above.

JP 2-173008 discloses a modified polypropylene by grafting an unsaturated carboxylic acid or an ester thereof. The resulting modified PP has a low melting point and low

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molecular weight. The grafted unsaturated carboxylic acid is present in the range of 0.0002 to 0.02, which is lower than in the present claims.

JP 59-217709 discloses a modified PP by grafting an unsaturated carboxylic acid or an ester thereof. The produced modified PP has a melting point. of 120 to 165 C. The content of grafted unsaturated carboxylic acid or an ester thereof is within the claimed range of 0.01 to 10 parts by weight. The modified low molecular weight PP has good solubility in certain types of solvents. The solution of the modified polypropylene can be used as a coating agent and paint.

JP 9-132619 discloses a rubber-reinforced thermoplastic resin. The rubber is produced by using a metallocene catalyst for producing the ethylene-alpha-olefin copolymer rubber. There is no grafting issue.

JP 2003-321588 belongs to patent family to EP 1469035 and U.S. Patent 7,208,552, which has been discussed above.

JP 2-173009 discloses grafting unsaturated carboxylic acid or an ester thereof onto polypropylene. Reference does not disclose low molecular weight of the resulting product, nor the presence of an unsaturated carboxylic acid with a (meth)acrylic acid ester.

JP 9-132617 a rubber-reinforced thermoplastic resin comprising resin of styrene/acrylonitrile and an ethylene-alpha-olefin copolymer rubber.

JP 9-59325 discloses rubber-reinforced vinyl resin such as styrene-acrylonitrile and a rubber having low melting point.

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JP 6-145286 belongs to patent family to U.S. Patent 5,563,195. JP 6-145286 discloses a composition comprising a modified polyolefin resin and a blocked isocyanate compound. The modified polyolefin is produced by the graft copolymerization of an unsaturated carboxylic acid or its anhydride such as maleic acid onto a polyolefin. A polyoxyalkylene diol is introduced in to an aqueous polyolefin resin having blocked isocyanate compound for purposes to form paint, primer, ink, coating material sealant and adhesive, Patent 5,563,195, column 4, lines 58-67. There is no carboxylic acid content, nor a low melting point or a molecular weight of the modified polyolefin.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to OLGA ASINOVSKY whose telephone number is (571)272-1066. The examiner can normally be reached on 9:00 to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Randy Gulakowski can be reached on 571-272-1302. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Randy Gulakowski/
Supervisory Patent Examiner, Art Unit 1796

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